

Draft Environmental Assessment



Raynold's Pass FISHING ACCESS SITE Improvement Project

September 2008



***Montana Fish,
Wildlife & Parks***

Raynold's Pass Fishing Access Site Improvement Project Draft Environmental Assessment MEPA, NEPA, MCA 23-1-110 CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. **Type of proposed state action:** Montana Fish, Wildlife & Parks (FWP) proposes to construct a new entrance road and parking area and improve an existing hand-launch boat ramp at Raynold's Pass Fishing Access Site (FAS) on the Upper Madison River east of Hwy 87.
2. **Agency authority for the proposed action:** The 1977 Montana Legislature enacted Montana Section 87-1-605 (MCA), which directs Fish, Wildlife & Parks (FWP) to acquire, develop and operate a system of fishing accesses. The legislature established an earmarked funding account to ensure that this fishing access site function would be established.
3. **Name of project:** Raynold's Pass FAS Improvement Project.
4. **Name, address and phone number of project sponsor (if other than the agency):** Montana Fish, Wildlife, and Parks is the project sponsor.
5. **If applicable:**
Estimated start of construction: Spring 2009
Estimated completion of construction: Summer 2008
Current Status of Project Design (% complete): 50
6. **Location affected by proposed action (county, range and township):** Raynold's Pass Fishing Access Site is located in Madison County. T11S, R02E, Sec 33.
7. **Project size -- estimate the number of acres that would be directly affected that are currently:**

| | <u>Acres</u> | | <u>Acres</u> |
|-------------------------------------|--------------|--------------------|--------------|
| (a) Developed: | | (d) Floodplain | <u>0</u> |
| Residential | <u>0</u> | | |
| Industrial | <u>0</u> | (e) Productive: | |
| | | Irrigated cropland | <u>0</u> |
| (b) Open Space/Woodlands/Recreation | <u>20</u> | Dry cropland | <u>0</u> |
| | | Forestry | <u>0</u> |
| (c) Wetlands/Riparian Areas | <u>0</u> | Rangeland | <u>10</u> |
| | | Other | <u>0</u> |

8. Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction.

(a) Permits: permits will be filed at least 2 weeks prior to project start.

| <u>Agency Name</u> | <u>Permit</u> |
|--|-------------------------------------|
| Montana Department of Fish, Wildlife & Parks | 124 |
| Madison County | Wastewater Treatment (i.e. Latrine) |
| Montana Department of Transportation | Approach |

(b) Funding:

| <u>Agency Name</u> | <u>Amount</u> |
|-----------------------------------|-----------------|
| Montana Fish, Wildlife & Parks | \$25,000 |
| Madison-Missouri River Trust Fund | \$18,750 |
| PPL-Montana | \$6,250 |
| Total | \$50,000 |

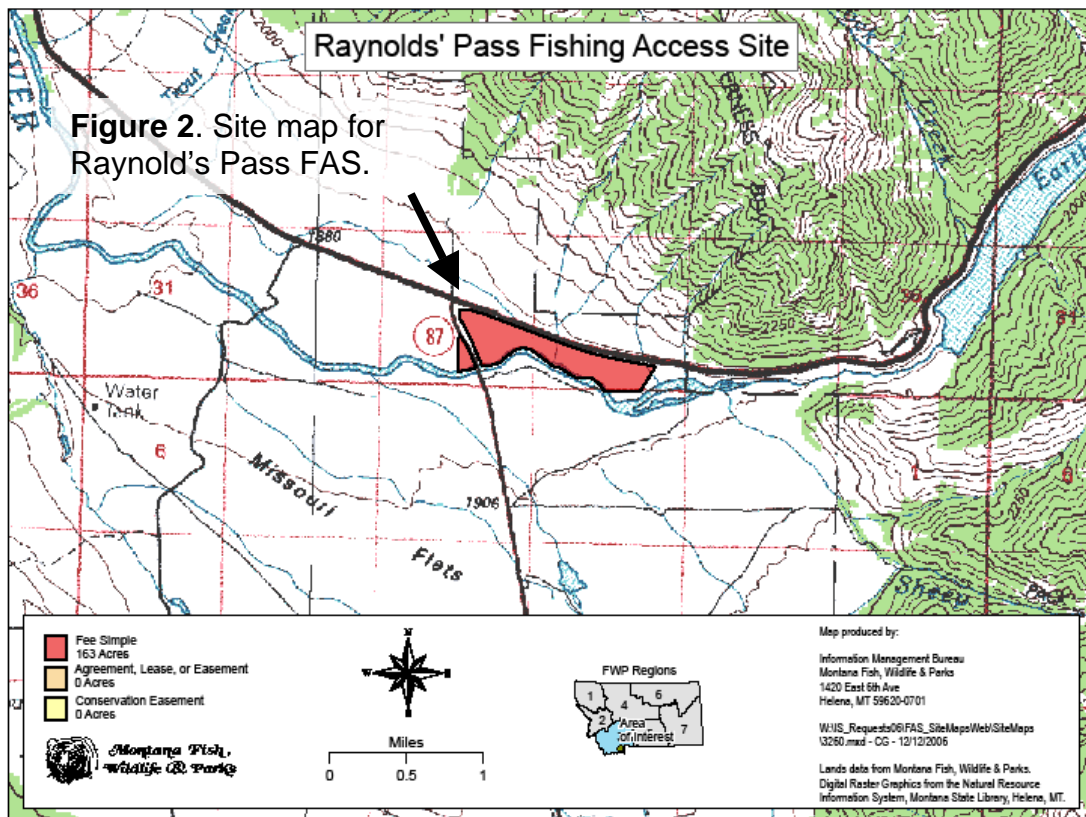
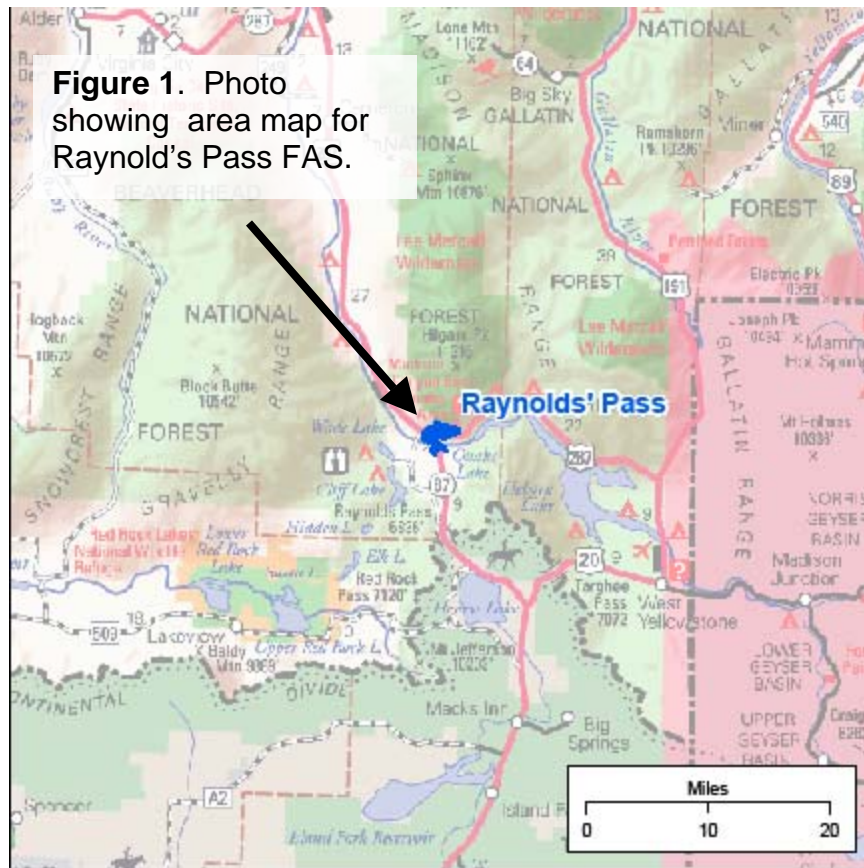
FWP anticipates that this project will cost more than the \$50,000 listed above. Towards that end, FWP has submitted an additional River Fund grant application for the 2008 grant cycle. FWP proposes contributing another \$14,000 towards this project and is applying for an additional \$10,500 from the Madison-Missouri River Trust Fund, plus an additional 3,500 from PPL-Montana. The total supplemental funding necessary for this project is \$28,000 which would bring the total project cost to \$78,000.

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

| <u>Agency Name</u> | <u>Type of Responsibility</u> |
|--------------------|-------------------------------|
| N/A | |

9. Narrative summary of the proposed action or project including the benefits and purpose of the proposed action:

Montana Fish, Wildlife & Parks (FWP) proposes to implement several site improvements to Raynold's Pass FAS. Raynold's Pass is a large 162-acre site along the north bank of the Madison River with approximately one mile of river frontage (see Figs. 1 and 2). Raynold's Pass is the first FWP-managed access site on the Madison after it flows into Montana at river mile 98. The FAS currently consists of a parking/camping area and a latrine on the west side of Highway 87, and an informal, pioneered parking area and boat ramp on the east side (see Figs. 3, 4 and 5). Access to the river on the developed side is walk-in only.





The access to the pioneered parking area off the highway is steep and makes getting off and onto the highway surface unsafe. Also, the informal use of the upstream portion of the FAS is causing damage to the bank and vegetation of the site due to vehicle use. The proposed project would consist of adding a new approach to Hwy 87, constructing an entrance road and 15-20 stall gravel parking area, improving the existing hand-launch boat ramp, and installing a concrete vault latrine.



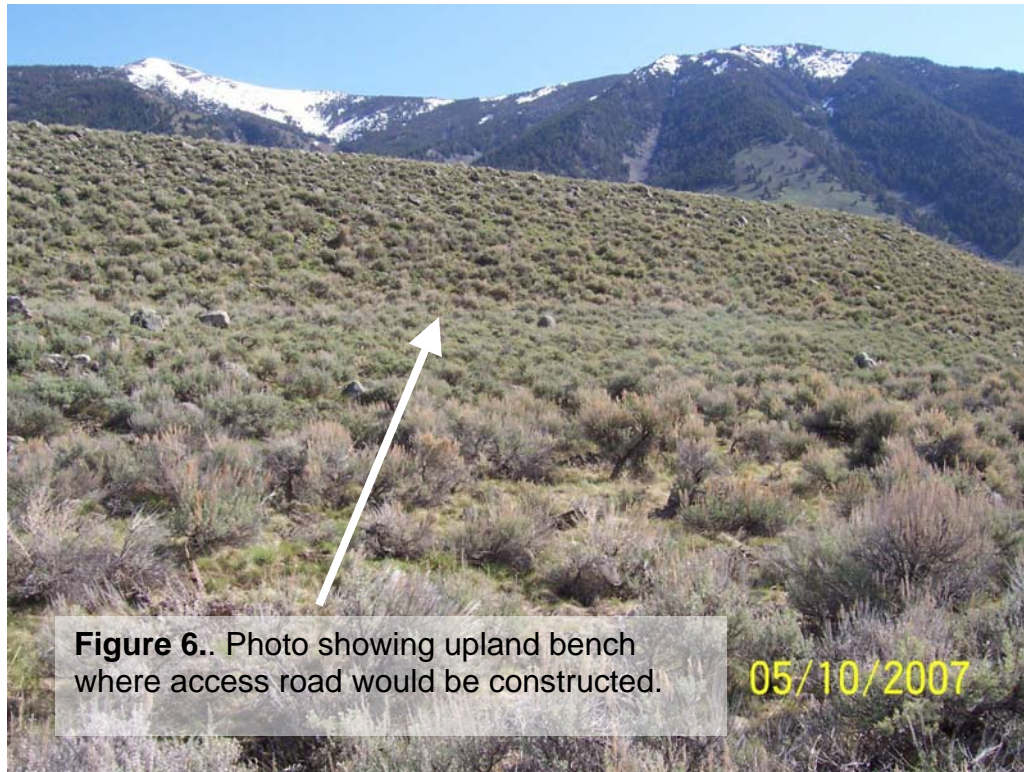
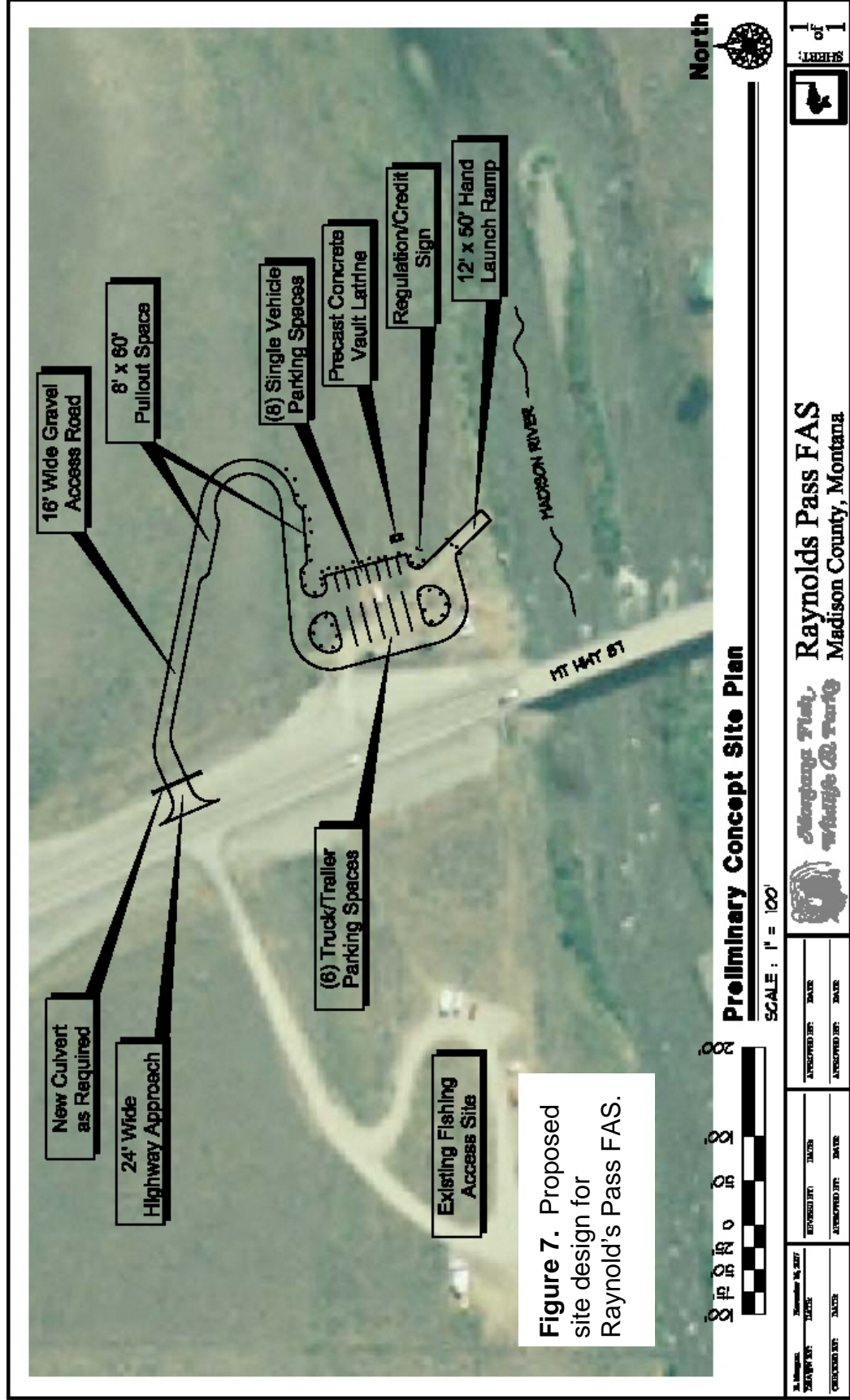


Figure 6.. Photo showing upland bench where access road would be constructed.

05/10/2007

The highway approach would be elevated to the same elevation as the highway so ingress and egress to the parking area would be safer. This aspect of the project would require a significant amount of fill. The approach would wind across the face of the upland bench (see Figs. 6 and 7) to reduce the angle of the road slope. The parking area would be designed for a capacity of 15-20 vehicles and would constrain vehicles to a smaller area than is presently being impacted by indiscriminate parking and driving. As part of this project, a pioneered two-track road would be blocked, and the roadway and parking area would be lined with boulders to constrict vehicles to hardened surfaces. Limiting traffic to confined areas will allow vegetation to recover as well as reducing erosion and sedimentation (see conceptual design, page 8).



PART II. ENVIRONMENTAL REVIEW

1. Description and analysis of reasonable alternatives:

Alternative A: No Action

If no action is taken, the Department would not construct a new approach, access road, or parking area, would not improve the existing boat ramp, or install a latrine on the eastern portion of Raynold's Pass FAS. The public would presumably continue to use the unsafe approach, pioneered road, parking area and boat ramp that currently exist, and continue to impact soil, plant, and water resources. These negative impacts will likely require the site to be closed to public use at some point in the future.

Preferred Alternative B: Proposed Action

In the preferred alternative, FWP would proceed with plans to engineer a new, safer highway approach and access road, and would construct a 15-20-stall gravel parking area and hand-launch gravel boat ramp. These measures would provide better and safer access and recreational opportunities to the public as well as protect the site from uncontrolled vehicle use and negative impacts to the resources.

2. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

There are no mitigation, stipulations, or other controls associated with the actions. Therefore, no evaluation is necessary.

3. Private Property Regulatory Restrictions:

Actions described in this environmental analysis do not regulate the use of private, tangible personal property, and therefore do not require an evaluation of regulatory restrictions on private property.

PART III. ENVIRONMENTAL REVIEW CHECKLIST

3. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

| 1. <u>LAND RESOURCES</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. **Soil instability or changes in geologic substructure? | | X | | | | |
| b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility? | | | X | | yes | 1b. |
| c. **Destruction, covering or modification of any unique geologic or physical features? | | X | | | | |
| d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake? | | | X | | | 1d. |
| e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard? | | X | | | | |
| f. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (attach additional pages of narrative if needed):

- 1b. Soil would be disturbed and over-covered during the construction of the approach, access road, parking area and gravel boat ramp. Also, more than 20 cubic yards of fill would be required for the engineering of the new approach. Negative impacts will be mitigated by the adherence to Best Management Practices (BMP's) during all phases of construction (please see Attachment D for discussion of road BMP's).
- 1d. The construction of the new boat ramp would cause minor changes to a small area of river bank that is currently being used as a boat ramp.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

| 2. <u>AIR</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|----------------------------|---------------------------------|------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. **Emission of air pollutants or deterioration of ambient air quality? (Also see 13 (c).) | | | X | | | 2a. |
| b. Creation of objectionable odors? | | | X | | yes | 2b. |
| c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally? | | X | | | | |
| d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants? | | X | | | | |
| e. ***For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regs? (Also see 2a.) | | | | | | |
| f. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Air Resources (attach additional pages of narrative if needed):

- 2a. Minor and temporary dust and vehicle emissions will be created by heavy equipment during construction of the new approach, access road, parking area, and boat ramp.
- 2b. Latrines can sometimes emit offensive odors. Installing a concrete vault toilet with proper venting and scheduling regular maintenance can mitigate this potential impact. Not providing a latrine typically leads to human waste/sanitation problems in vegetated areas in and around the FAS.

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| 3. WATER Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated* | Comment Index |
|--|-----------|------|---------|----------------------------|--------------------------------|------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. *Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity? | | | X | | yes | 3a. |
| b. Changes in drainage patterns or the rate and amount of surface runoff? | | X | | | | |
| c. Alteration of the course or magnitude of floodwater or other flows? | | X | | | | |
| d. Changes in the amount of surface water in any water body or creation of a new water body? | | X | | | | |
| e. Exposure of people or property to water related hazards such as flooding? | | X | | | | |
| f. Changes in the quality of groundwater? | | X | | | | |
| g. Changes in the quantity of groundwater? | | X | | | | |
| h. Increase in risk of contamination of surface or groundwater? | | | X | | | 3h. |
| i. Effects on any existing water right or reservation? | | X | | | | |
| j. Effects on other water users as a result of any alteration in surface or groundwater quality? | | X | | | | |
| k. Effects on other users as a result of any alteration in surface or groundwater quantity? | | X | | | | |
| l. ****For P-R/D-J, will the project affect a designated floodplain? (Also see 3c.) | | | | | | |
| m. ***For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a.) | | | | | | |
| n. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Water Resources (attach additional pages of narrative if needed):

- 3a. Short-term increases in turbidity may occur in the immediate vicinity of the boat ramp during project construction. The Department will follow Best Management Practices in all aspects of the project to minimize sediment delivery to the river (please see Attachment D for list of road BMP's). The Department will obtain all necessary permits prior to construction.
- 3h. There is a slight risk of water contamination from petroleum products from heavy machinery used in the construction of the boat ramp and other aspects of the project on the site.

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| 4. VEGETATION Will the proposed action result in? | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|------------|----------------------------|------------------------------------|------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)? | | | X | | | 4a. |
| b. Alteration of a plant community? | | | X | | | 4b. |
| c. Adverse effects on any unique, rare, threatened, or endangered species? | | X | | | | 4c. |
| d. Reduction in acreage or productivity of any agricultural land? | | X | | | | |
| e. Establishment or spread of noxious weeds? | | | X | | | 4e. |
| f. ****For P-R/D-J, will the project affect wetlands, or prime and unique farmland? | | | | | | |
| g. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Vegetation (attach additional pages of narrative if needed):

- 4a. The proposed project would require the removal of approximately 1/8 acre of vegetation for the parking lot, and 1/2 acre of vegetation for the entrance road. Vegetation in the project area is comprised mainly of native and non-native grasses and forbs. This plant community is common and well-represented locally and regionally, and the overall effect would not be significant.
- 4b. Please see comment 4a.
- 4c. A search of the Montana Natural Heritage Database did not reveal any plant species of concern within the larger project area.
- 4e. Disturbed soils could become colonized by noxious weeds. FWP would re-seed or re-vegetate all disturbed areas and actively manage the entire site for noxious weeds under the FWP Region 3 Weed Management Plan.

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** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

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| ** 5. <u>FISH/WILDLIFE</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|------------------|-------------|----------------|------------------------------------|--|--------------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Deterioration of critical fish or wildlife habitat? | | X | | | | |
| b. Changes in the diversity or abundance of game animals or bird species? | | X | | | | 5b. |
| c. Changes in the diversity or abundance of nongame species? | | | X | | | 5c. |
| d. Introduction of new species into an area? | | X | | | | |
| e. Creation of a barrier to the migration or movement of animals? | | X | | | | |
| f. Adverse effects on any unique, rare, threatened, or endangered species? | | X | | | | 5f. |
| g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)? | | X | | | | |
| h. ****For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f.) | | | | | | |
| i. ***For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d.) | | | | | | |
| j. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Fish and Wildlife (attach additional pages of narrative if needed):

- 5b. There is a low likelihood that the proposed project would cause any changes in the diversity or abundance of game species in the larger project area as human presence is already fairly prevalent at the site and there is too little cover on the site for most game animal and bird species.
- 5c. The proposed project has the potential to impact the diversity and abundance of nongame species at the site. Small rodents and ground-dwelling birds would be displaced by the proposed access road. It is unlikely that the parking area would cause additional impact as the site is already being used.
- 5f. A search of the Natural Resources Information System provided by the Montana Natural Heritage Program showed that the project area is within possible gray wolf (an endangered species), grizzly bear and lynx (threatened species), and wolverine and greater sage-grouse (sensitive species) habitat. No observations of any of these species have been recorded at this location, but it is possible that they have moved through the area. The type of light construction proposed in this project is unlikely to have an impact on these species, should they occur, because of the project's small footprint and the existing human presence in the area. Please see Appendix 2 for a complete listing of species of concern found in the larger project area.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

B. HUMAN ENVIRONMENT

| 6. <u>NOISE/ELECTRICAL EFFECTS</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Increases in existing noise levels? | | | x | | | 6a. |
| b. Exposure of people to serve or nuisance noise levels? | | X | | | | |
| c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property? | | X | | | | |
| d. Interference with radio or television reception and operation? | | X | | | | |
| e. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Noise/Electrical Effects (attach additional pages of narrative if needed):

- 6a. There would be a temporary increase in noise level during construction, but would end after completion of the project. It is unlikely that adjacent landowners would be affected.

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** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

| 7. LAND USE Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|----------------------------|---------------------------------|------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Alteration of or interference with the productivity or profitability of the existing land use of an area? | | X | | | | 7a. |
| b. Conflicted with a designated natural area or area of unusual scientific or educational importance? | | X | | | | |
| c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action? | | X | | | | |
| d. Adverse effects on or relocation of residences? | | X | | | | |
| e. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Use (attach additional pages of narrative if needed):

- 7a. The proposed action would not alter or interfere with the productivity or profitability of the existing land use, nor does it conflict with a designated natural area or area of unusual scientific or educational importance.

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** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

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| 8. RISK/HEALTH HAZARDS Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|-----------|------|---------|----------------------------|---------------------------------|------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption? | | | X | | yes | 8a. |
| b. Affect an existing emergency response or emergency evacuation plan, or create a need for a new plan? | | X | | | | |
| c. Creation of any human health hazard or potential hazard? | | X | | | | |
| d. ***For P-R/D-J, will any chemical toxicants be used? (Also see 8a) | | | | | | |
| e. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Risk/Health Hazards (attach additional pages of narrative if needed):

- 8a. Noxious weed control at Raynold's Pass FAS is continuous and ongoing. The FWP Region 3 Weed Management Plan calls for an integrated method of managing weeds including the use of herbicides. The use of herbicides would be in compliance with application guidelines and conducted by people trained in safe handling techniques. Weeds would also be controlled using mechanical or biological means in certain areas to reduce the risk of chemical spills or water contamination. In recent years, FWP has been working closely with Madison County and the Madison Valley Ranch Group to improve weed control within the upper Madison Valley.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

| 9. COMMUNITY IMPACT Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|----------------------------|---------------------------------|------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Alteration of the location, distribution, density, or growth rate of the human population of an area? | | X | | | | |
| b. Alteration of the social structure of a community? | | X | | | | |
| c. Alteration of the level or distribution of employment or community or personal income? | | X | | | | |
| d. Changes in industrial or commercial activity? | | X | | | | |
| e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods? | | X | | | | 9e. |
| f. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Community Impact (attach additional pages of narrative if needed):

9e. The proposed project is not expected to cause any impacts to the community surrounding Raynold's Pass FAS.

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** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

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| 10. <u>PUBLIC SERVICES/TAXES/UTILITIES</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|-----------|------|---------|----------------------------|---------------------------------|------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify: | | X | | | | |
| b. Will the proposed action have an effect upon the local or state tax base and revenues? | | X | | | | |
| c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications? | | X | | | | |
| d. Will the proposed action result in increased use of any energy source? | | X | | | | |
| e. **Define projected revenue sources | | | | | | 10e. |
| f. **Define projected maintenance costs. | | | | | | 10f. |
| g. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Public Services/Taxes/Utilities (attach additional pages of narrative if needed):

10e. The total project cost of the proposed improvements is estimated to be \$84,000; \$75,000 of construction costs, and \$9,000 of owner supplied materials (latrine + signs). Additional funding will be needed over and above the existing budget to fully complete the proposed project. A 2008 River Trust Fund grant application has been submitted and if successful will fund this financial shortfall .

10f. Yearly maintenance costs for the site are estimated to be \$1,200, including latrine pumping.

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| ** 11. <u>AESTHETICS/RECREATION</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|------------------|-------------|----------------|------------------------------------|--|--------------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view? | | | X positive | | | 11a. |
| b. Alteration of the aesthetic character of a community or neighborhood? | | X | | | | |
| c. **Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report.) | | | X | | | 11c. |
| d. ***For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c.) | | | | | | |
| e. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Aesthetics/Recreation (attach additional pages of narrative if needed):

11. The proposed project would improve the aesthetics of Raynold's Pass FAS.

11c. Please see Attachment A for Tourism Report.

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| 12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|-----------|------|---------|----------------------------|---------------------------------|------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. **Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance? | X | | | | | 12a. |
| b. Physical change that would affect unique cultural values? | X | | | | | 12b. |
| c. Effects on existing religious or sacred uses of a site or area? | | X | | | | |
| d. ****For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a.) | | | | | | |
| e. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Cultural/Historical Resources (attach additional pages of narrative if needed):

12a. The State Historic Preservation Office (SHPO) has recommended that a cultural resource inventory be conducted at the site in order to determine whether or not cultural sites exist and if they will be impacted. FWP will follow all recommendations of SHPO in this matter. Please see SHPO recommendation in Attachment B. FWP contracted with GCM Services to conduct a cultural survey as recommended by SHPO. The survey concluded, and FWP concurred, that there is a low likelihood of adverse impacts to cultural resources from the proposed project. Please see SHPO letter of clearance in Attachment C.

12b. Please see Comment 12a.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

SIGNIFICANCE CRITERIA

| 13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.) | | X | | | | 13a. |
| b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur? | | X | | | | |
| c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan? | | X | | | | |
| d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed? | | X | | | | |
| e. Generate substantial debate or controversy about the nature of the impacts that would be created? | | X | | | | |
| f. ***For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e.) | | | | | | |
| g. ****For P-R/D-J, list any federal or state permits required. | | | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Significance Criteria (attach additional pages of narrative if needed):

13a. This EA found no significant impacts to the human or physical environment from the proposed action.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

PART IV. NARRATIVE EVALUATION AND COMMENT

The Madison River is a blue-ribbon fishery and the most popular river to fish in Montana. The proposed development would provide better access to this stretch of the river and improve the recreational experience for anglers and other recreationists using the site. The project would also protect land, water, and plant resources at the site.

The proposed project would increase public recreational opportunities with no significant impacts to the human or physical environment. Montana FWP, in conjunction with PPL-Montana, would like to provide better public access to the Madison River by implementing these improvements to Raynold's Pass FAS.

PART V. PUBLIC PARTICIPATION

- 1. Describe the level of public involvement for this project if any, and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?**

The public will be notified by way of 2 legal notices and one statewide press release in the *Bozeman Chronicle*, the *Madisonian* and the *Helena Independent Record* and by public notice on the Fish, Wildlife & Parks web page: <http://fwp.state.mt.us/publicnotices> . Individual notices will be sent to those that have requested one.

- 2. Duration of comment period, if any.**

A 30-day comment period is proposed. This level of public involvement is appropriate for this scale of project.

The comment period would run from September 12, 2008 until October 14, 2008.

Todd Garrett
Region Three Fishing Access Site Manager
1400 South 19th.
Bozeman, MT 59718
tgarrett@mt.gov

PART V. EA PREPARATION

- 1. Based on the significance criteria evaluated in this EA, is an EIS required? (YES/NO)?**

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.

Based on an evaluation of the primary, secondary, and cumulative impacts to the physical and human environment, this environmental review found no significant impacts from the proposed action. In determining the significance of the impacts, Fish, Wildlife and Parks assessed the severity, duration, geographic extent, and frequency of the impact, the probability that the impact would occur or reasonable assurance that the impact would not occur. FWP assessed the growth-inducing or growth-inhibiting aspects of the impact, the importance to the state and to society of the environmental resource or value affected, any precedent that would be set as a result of an impact of the proposed action that would commit FWP to future actions; and potential conflicts with local, federal, or state laws. As this EA revealed no significant impacts from the proposed actions, an EA is the appropriate level of review and an EIS is not required.

- 2. Name, title, address and phone number of the person(s) responsible for preparing the EA:**

Linnaea Schroeer-Smith
Borealis Scientific Services
912 Dearborn Ave
Helena, MT 59601
(406) 495-9620
mtflower3@bresnan.net

Jerry Walker
Regional Parks Manager
1400 South 19th.
Bozeman, MT 59718
(406)994-3552
gwalker@mt.gov

- 3. List of agencies consulted during preparation of the EA:**

Montana Fish, Wildlife & Parks

Parks Division

Wildlife Division

Fisheries Division

Design & Construction Bureau

Lands Division

Montana State Historic Preservation Office (SHPO)

Montana Department of Commerce – Tourism

Montana Natural Heritage Program – Natural Resources Information System (NRIS)

APPENDIX 1
HB495
PROJECT QUALIFICATION CHECKLIST

Date April 8, 2008

Person Reviewing Linnaea Schroeer-Smith

Project Location: Raynold's Pass Fishing Access Site is located in Madison County. T11S, R02E, Sec 23.

Description of Proposed Work: Montana Fish, Wildlife & Parks (FWP) proposes to construct a new entrance road and parking area and improve the gravel hand-launch boat ramp at Raynold's Pass FAS on the Upper Madison River.

The following checklist is intended to be a guide for determining whether a proposed development or improvement is of enough significance to fall under HB 495 rules. (Please check ☐ all that apply and comment as necessary.)

- ☒ **A. New roadway or trail built over undisturbed land?**
Comments: Approximately 900 ft of gravel-surface road would be constructed over undisturbed land for the entrance road.
- ☐ **B. New building construction (buildings <100 sf and vault latrines exempt)?**
Comments: None
- ☒ **C. Any excavation of 20 c.y. or greater?**
Comments: The construction of the approach, access road and parking area will require excavation of more than 20 cy.
- ☒ **D. New parking lots built over undisturbed land or expansion of existing lot that increases parking capacity by 25% or more?**
Comments: None. The proposed parking area would be constructed over land that has been used as a pioneered parking area but has not formally been developed.
- ☐ **E. Any new shoreline alteration that exceeds a double wide boat ramp or handicapped fishing station?**
Comments: None.
- ☐ **F. Any new construction into lakes, reservoirs, or streams?**
Comments: None
- ☐ **G. Any new construction in an area with National Registry quality cultural artifacts (as determined by State Historical Preservation Office)?**
Comments: SHPO clearance would be obtained prior to project start.

☐ H. **Any new above ground utility lines?**

Comments: None

☐ I. **Any increase or decrease in campsites of 25% or more of an existing number of campsites?**

Comments: None.

☐ J. **Proposed project significantly changes the existing features or use pattern; including effects of a series of individual projects?**

Comments: None

If any of the above are checked, HB 495 rules apply to this proposed work and should be documented on the MEPA/HB495 CHECKLIST. Refer to MEPA/HB495 Cross Reference Summary for further assistance.

Appendix 2

Sensitive Plants and Animals in Raynold's Pass FAS Area

Species of Concern Terms and Definitions

Montana Species of Concern. The term "**Species of Concern**" includes taxa that are at-risk or potentially at-risk due to rarity, restricted distribution, habitat loss, and/or other factors. The term also encompasses species that have a special designation by organizations or land management agencies in Montana, including: Bureau of Land Management Special Status and Watch species; U.S. Forest Service Sensitive and Watch species; U.S. Fish and Wildlife Service Threatened, Endangered and Candidate species.

▼ **Status Ranks (Global and State)**

The international network of Natural Heritage Programs employs a standardized ranking system to denote global (**G** -- range-wide) and state status (**S**) (NatureServe 2003). Species are assigned numeric ranks ranging from 1 (critically imperiled) to 5 (demonstrably secure), reflecting the relative degree to which they are "at-risk". Rank definitions are given below. A number of factors are considered in assigning ranks -- the number, size and distribution of known "occurrences" or populations, population trends (if known), habitat sensitivity, and threat. Factors in a species' life history that make it especially vulnerable are also considered (e.g., dependence on a specific pollinator).

Status Ranks

| Code | Definition |
|------------------------|--|
| G1 S1 | At high risk because of extremely limited and/or rapidly declining numbers, range, and/or habitat, making it highly vulnerable to global extinction or extirpation in the state. |
| G2 S2 | At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state. |
| G3 S3 | Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas. |
| G4 S4 | Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern. |
| G5 S5 | Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range. |

1. *Canis lupus* (Gray Wolf).

Natural Heritage Ranks:

State: **S3**

Global: **G4**

Federal Agency Status:

U.S. Fish and Wildlife Service: **LE, XN**

U.S. Forest Service: **Endangered**

U.S. Bureau of Land Management: **Special Status**

No observational data exists for this specific site, but the project area is within wolves estimated range. There is a low likelihood that the proposed project would negatively impact this species.

2. *Centrocercus urophasianus* (Greater Sage-grouse).

Natural Heritage Ranks:

State: **S3**

Global: **G4**

Federal Agency Status:

U.S. Fish and Wildlife Service:

U.S. Forest Service: **Sensitive**

U.S. Bureau of Land Management: **Sensitive**

There are no active leks within or immediately surrounding the proposed project site. There is a low likelihood that this species would be negatively impacted by the project.

3. *Lynx Canadensis* (Canada Lynx).

Natural Heritage Ranks:

State: **S3**

Global: **G5**

Federal Agency Status:

U.S. Fish and Wildlife Service: **LT**

U.S. Forest Service: **Threatened**

U.S. Bureau of Land Management: **Special Status**

The Madison, Gallatin, Absaroka, Beartooth and Dear Creek mountain ranges have relatively continuous habitat for this species. There is a low likelihood that this species would be negatively impacted by this project, as the site is already developed and does not contain preferred lynx habitat.

4. *Ursus arctos* (Grizzly Bear)

Natural Heritage Ranks:

State: **S2S3**

Global: **G4**

Federal Agency Status:

U.S. Fish and Wildlife Service: **LT, XN, DM**

U.S. Forest Service: **Threatened**

U.S. Bureau of Land Management: **Special Status**

The USFWS estimates populations of greater than 500 animals within the Yellowstone Distinct Population Segment. On March 22, 2007, the USFWS announced the delisting of the grizzly bear from the Endangered Species Act as a result of the achievement of

recovery goals. Due to the existing development and human presence on the site, there is a low likelihood that the proposed project would impact this species.

4. *Gulo gulo* (Wolverine)

Natural Heritage Ranks:

State: **S3**

Global: **G4**

Federal Agency Status:

U.S. Fish and Wildlife Service:

U.S. Forest Service: **Sensitive**

U.S. Bureau of Land Management: **Sensitive**

The Madison, Gallatin, Absaroka, Beartooth and Dear Creek mountain ranges have relatively continuous habitat for this species. There is a low likelihood that this species would be negatively impacted by this project, as the site is already developed and does not contain preferred wolverine habitat.

Information courtesy of Montana Natural Heritage Program

ATTACHMENT A
TOURISM REPORT
MONTANA ENVIRONMENTAL POLICY ACT (MEPA)/HB495

The Montana Department of Fish, Wildlife and Parks has initiated the review process as mandated by HB495 and the Montana Environmental Policy Act in its consideration of the project described below. As part of the review process, input and comments are being solicited. Please complete the project name and project description portions and submit this form to:

Carol Crockett
Tourism Development Specialist, Travel Montana
Montana Commerce Department
301 South Park Avenue
Helena, MT 59601
406-841-2796, FAX 406-841-2871
ccrockett@mt.gov

Project Name: Raynold's Pass FAS Improvement Project.

Project Location: Raynold's Pass Fishing Access Site is located in Madison County. T11S, R02E, Sec 33.

Project Description: Montana Fish, Wildlife & Parks (FWP) proposes to construct a new entrance road and parking area and install a hand-launch boat ramp at Raynold's Pass FAS on the Upper Madison River.

1. Would this site development project have an impact on the tourism economy?
NO YES If YES, briefly describe:

Yes, as described, the project has the potential to positively impact the tourism and recreation industry economy.

2. Does this impending improvement alter the quality or quantity of recreation/tourism opportunities and settings?
NO YES If YES, briefly describe:

Yes, as described, the project could improve the quality and quantity of the tourism and recreational opportunities.

Signature _____ Carol Crockett _____ Date April 25, 2008

ATTACHMENT B
SHPO Recommendation



MONTANA HISTORICAL SOCIETY

225 North Roberts ♦ P.O. Box 201201 ♦ Helena, MT 59620-1201
♦ (406) 444-2694 ♦ FAX (406) 444-2696 ♦ www.montanahistoricalsociety.org ♦

FWP File #735.1 Raynold's Pass FAS

I have conducted a cultural resource file search for the above-cited project located in Section 33, T11S, R2E. According to our records there have been no previously recorded sites within the designated search locale. The absence of cultural properties in the area does not mean that they do not exist but rather may reflect the absence of any previous cultural resource inventory in the area, as our records indicated none.

Based on the lack of previous inventory and the ground disturbance required by this undertaking we feel that this project has the potential to impact cultural properties. We, therefore, recommend that a cultural resource inventory be conducted in order to determine whether or not sites exist and if they will be impacted.

Sincerely,

Damon Murdo
Cultural Records Manager

File: FWP/PARKS/2007



STATE HISTORIC PRESERVATION OFFICE ♦ 1410 8th Ave ♦ P.O. Box 201202 ♦ Helena, MT 59620-1202
♦ (406) 444-7715 ♦ FAX (406) 444-6575

ATTACHMENT C
SHPO Letter of Clearance



**Montana Fish,
Wildlife & Parks**

1420 East Sixth Avenue
P.O. Box 200701
Helena, Montana 59620-0701

Dr. Mark Baumler, SHPO
State Historical Preservation Office
P.O. Box 201202
1410 8th Avenue
Helena, Montana 59620-1202

RE: Raynold's Pass Fishing Access Site

June 3, 2008

Dear Dr. Baumler:

The Department of Fish, Wildlife and Parks (FWP) is proposing improvements at the Raynold's Pass Fishing Access Site on the Madison River. The proposed undertaking is located on lands administered by FWP at approximately T11S R2E S33 as indicated on attached USGS 7.5' quadrangle *Earthquake Lake, MT (1988)*. Pursuant to regulations found at 36 CFR 800 we request SHPO review of the enclosed inventory and the eligibility determinations stated below.

FWP believes that the APE, as defined in the enclosed report, adequately considers all reasonable potential effects to Historic Properties from this proposed undertaking. We also believe that the report prepared by David Ferguson of GCM Services, Inc. for FWP is adequate and we agree with his methods. We agree with the consultant's recommendations of eligibility and that, due to the low likelihood of adverse impacts to cultural resources, the project should be allowed to proceed as proposed.

We request your concurrence on the adequacy of the enclosed report and the low likelihood of adverse impacts to cultural resources. Please feel free to contact Bardell Mangum at (406) 841-4012 or by e-mail at bmangum@mt.gov if you have any questions or concerns regarding the proposed project.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Mangum' or similar, with a long horizontal flourish extending to the right.

Bardell Mangum, RLA
Assistant Cultural Resources Coordinator
Design & Construction Bureau

Encl.: report; CRABS form

cc: File 735.1

ATTACHMENT D
MONTANA FISH, WILDLIFE AND PARKS
BEST MANAGEMENT PRACTICES FOR FISHING ACCESS SITES
10-02-02

III. ROADS

A. Road Planning and location

1a. Minimize the number of roads constructed at the FAS through comprehensive road planning, recognizing foreseeable future uses.

1b. Use existing roads, unless use of such roads would cause or aggravate an erosion problem.

3. Fit the road to the topography by locating roads on natural benches and following natural contours. Avoid long, steep road grades and narrow canyons.

4. Locate roads on stable geology, including well-drained soils and rock formations that tend to dip into the slope. Avoid slumps and slide-prone areas characterized by steep slopes, highly weathered bedrock, clay beds, concave slopes, hummocky topography, and rock layers that dip parallel to the slope. Avoid wet areas, including seeps, wetlands, wet meadows, and natural drainage channels.

5a. Minimize the number of stream crossings.

5b. Choose stable stream crossing sites. "Stable" refers to streambanks with erosion-resistant materials and in hydrologically safe spots.

B. Road Design

2. Design roads to the minimum standard necessary to accommodate anticipated use and equipment. The need for higher engineering standards can be alleviated through proper road-use management. "Standard" refers to road width.

4. Design roads to minimize disruption of natural drainage patterns. Vary road grades to reduce concentrated flow in road drainage ditches, culverts, and on fill slopes and road surfaces.

C. Drainage from Road Surface

- 1. Provide adequate drainage from the surface of all permanent and temporary roads. Use outsloped, insloped or crowned roads, installing proper drainage features. Space road drainage features so peak flow on road surface or in ditches will not exceed their capacity.**
 - a. Outsloped roads provide means of dispersing water in a low-energy flow from the road surface. Outsloped roads are appropriate when fill slopes are stable, drainage will not flow directly into stream channels, and transportation safety can be met.
 - b. For in-sloped roads, plan ditch gradients steep enough, generally greater than 2%, but less than 8%, to prevent sediment deposition and ditch erosion. The steeper gradients may be suitable for more stable soils; use the lower gradients for less stable soils.
 - c. Design and install road surface drainage features at adequate spacing to control erosion; steeper gradients require more frequent drainage features. Properly constructed drain dips can be an economical method of road surface drainage. Construct drain dips deep enough into the subgrade so that traffic will not obliterate them.
2. For ditch relief/culverts, construct stable catch basins at stable angles. Protect the inflow end of crossdrain culverts from plugging and armor if in erodible soil. Skewing ditch relief culverts 20 to 30 degrees toward the inflow from the ditch will improve inlet efficiency.
4. Provide energy dissipators (rock piles, slash, log chunks, etc.) where necessary to reduce erosion at outlet of drainage features. Crossdrains, culverts, water bars, dips, and other drainage structures should not discharge onto erodible soils or fill slopes without outfall protection.
6. Route road drainage through adequate filtration zones, or other sediment-settling structures. Install road drainage features above stream crossings to route discharge into filtration zones before entering a stream.

D. Construction/Reconstruction

2. Stabilize erodible, exposed soils by seeding, compacting, riprapping, benching, mulching, or other suitable means.
3. At the toe of potentially erodible fill slopes, particularly near stream channels, pile slash in a row parallel to the road to trap sediment. When done concurrently with road construction, this is one method to effectively control sediment movement and it also provides an economical way of disposing of roadway slash. Limit the height,

width and length of these “slash filter windrows” so not to impede wildlife movement. Sediment fabric fences or other methods may be used if effective.

5. Construct cut and fill slopes at stable angles to prevent sloughing and subsequent erosion.

6. Avoid incorporating potentially unstable woody debris in the fill portion of the road prism. Where possible, leave existing rooted trees or shrubs at the toe of the fill slope to stabilize the fill.

8. Place debris, overburden, and other waste materials associated with construction and maintenance activities in a location to avoid entry into streams. Include these waste areas in soil stabilization planning for the road.

10. When using existing roads, reconstruct only to the extent necessary to provide adequate drainage and safety; avoid disturbing stable road surfaces. Consider abandoning existing roads when their use would aggravate erosion.

E. Road Maintenance

1. Grade road surfaces only as often as necessary to maintain a stable running surface and to retain the original surface drainage.

2. Maintain erosion control features through periodic inspection and maintenance, including cleaning dips and crossdrains, repairing ditches, marking culvert inlets to aid in location, and clearing debris from culverts.

3. Avoid cutting the toe of cut slopes when grading roads, pulling ditches, or plowing snow.

6. Avoid using roads during wet periods if such use would likely damage the road drainage features. Consider gates, barricades or signs to limit use of roads during wet periods.

IV. RECREATIONAL FACILITIES (parking areas, campsites, trails, ramps, restrooms)

A. Site Design

2. Design a site that best fits the topography, soil type, and stream character, while minimizing soil disturbance and economically accomplishing recreational objectives. Keep roads and parking lots at least 50 feet from water; if closer, mitigate with vegetative buffers as necessary.

5. Locate foot trails to avoid concentrating runoff and provide breaks in grade as needed. Locate trails and parking areas away from natural drainage systems and

divert runoff to stable areas. Limit the grade of trails on unstable, saturated, highly erosive, or easily compacted soils

6. Scale the number of boat ramps, campsites, parking areas, bathroom facilities, etc. to be commensurate with existing and anticipated needs. Facilities should not invite such use that natural features will be degraded.

7. Provide adequate barriers to minimize off-road vehicle use

B. Maintenance: Soil Disturbance and Drainage

1a. Maintenance operations minimize soil disturbance around parking lots, swimming areas and campsites, through proper placement and dispersal of such facilities or by reseeding disturbed ground. Drainage from such facilities should be promoted through proper grading.

3. Maintain adequate drainage for ramps by keeping side drains functional or by maintaining drainage of road surface above ramps or by crowning (on natural surfaces).

5. Maintain adequate drainage for trails. Use mitigating measures, such as water bars, wood chips, and grass seeding, to reduce erosion on trails.

6. When roads are abandoned during reconstruction or to implement site-control, they must be reseeded and provided with adequate drainage so that periodic maintenance is not required.

V. RAMPS AND STREAM CROSSINGS

A. Legal Requirements

1. Relevant permits must be obtained prior to building bridges across streams or boat ramps. Such permits include the SPA 124 permit, the COE 404 permit, and the DNRC Floodplain Development Permit.

B. Design Considerations

1a. Placement of boat ramp should be such that boats can load and unload with out difficulty and the notch in the bank where the ramp was placed does not encourage bank erosion. Extensions of boat ramps beyond the natural bank can also encourage erosion.

1b. Adjust the road grade or provide drainage features (e.g. rubber flaps) to reduce the concentration of road drainage to stream crossings and boat ramps. Direct drainage flow through an adequate filtration zone and away from the ramp or crossing through the use of gravel side-drains, crowning (on natural surfaces) or 30-degree angled grooves on concrete ramps.

2. Avoid unimproved stream crossings on permanent streams. On ephemeral streams, when a culvert or bridge is not feasible, locate drive-throughs on a stable, rocky portion of the stream channel.
3. Unimproved (non-concrete) ramps should only be used when the native soils are sufficiently gravelly or rocky to withstand the use at the site and to resist erosion.

C. Installation of Stream Crossings and Ramps

1. Minimize stream channel disturbances and related sediment problems during construction of road and installation of stream crossing structures. Do not place erodible material into stream channels. Remove stockpiled material from high water zones. Locate temporary construction bypass roads in locations where the stream course will have a minimal disturbance. Time construction activities to protect fisheries and water quality.
2. Where ramps enter the stream channel, they should follow the natural streambed in order to avoid changing stream hydraulics and to optimize use of boat trailers.
3. Use culverts with a minimum diameter of 15 inches for permanent stream crossings and cross drains. Proper sizing of culverts may dictate a larger pipe and should be based on a 50-year flow recurrence interval. Install culverts to conform to the natural streambed and slope on all perennial streams and on intermittent streams that support fish or that provide seasonal fish passage. Place culverts slightly below normal stream grade to avoid culvert outfall barriers. Do not alter stream channels upstream from culverts, unless necessary to protect fill or to prevent culvert blockage. Armor the inlet and/or outlet with rock or other suitable material where needed.
4. Prevent erosion of boat ramps and the affected streambank through proper placement (so as to not catch the stream current) and hardening (rip-rap or erosion resistant woody vegetation).
6. Maintain a 1 foot minimum cover for culverts 18-36 inches in diameter, and a cover of one-third diameter for larger culverts to prevent crushing by traffic.